STATE OF SOUTH CAROLINA

BEFORE THE PUBLIC SERVICE COMMISSION

DOCKET NO. 2019-239-E

In the Matter of: **Dominion Energy South Carolina, Inc.'s Request for Approval of an Expanded Portfolio of Demand Side Management Programs and a Modified Demand Side Management Rate Rider**	)	SURREBUTTAL TESTIMONY OF ELIZABETH CHANT ON BEHALF OF SOUTH CAROLINA COASTAL CONSERVATION LEAGUE, SOUTH CAROLINA NAACP, AND SOUTHERN ALLIANCE FOR CLEAN ENERGY

Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

A. My name is Elizabeth Chant. I am a Managing Consultant at Optimal Energy. My business address is 10600 Route 116, Hinesburg, VT 05461.

Q. DID YOU SUBMIT DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I did.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. I want to respond to following points raised in the rebuttals of DESC witnesses Griffin, Raftery, and Pickles:

- The establishment of an energy savings goal for DESC of 1 percent of energy sales;
- Exclusion of opt-out sales in calculation of percent of total annual sales;
- Reliance on comparisons of historic achievement in other states to set future goals for DESC;

- Limitations in DESC's Potential Study;
- My recommendations to add additional measures and programs to the DESC portfolio;
- Sufficiency of program offerings to address the needs of moderate-income ratepayers;
- Sufficiency of program offerings to address the needs of low-income ratepayers;
- DESC's proposed opt-out period for commercial and industrial customers;
- DESC's proposed shareholder incentive;
- The introduction of a new sliding scale shared savings mechanism;
- The need to balance DESC's flexibility to change programs over the five-year period with Commission oversight; and
- The sufficiency of DESC's proposed demand response programs targeted at winter peak.

Q. MR. PICKLES CRITIQUES YOUR RECOMMENDATION THAT THE COMMISSION ESTABLISH A SAVINGS TARGET OF ONE PERCENT OF ANNUAL SALES BY YEAR 5. HOW DO YOU RESPOND?

A. The DESC Potential Study itself points to many utility efficiency programs from the South Census Region that in 2017 achieved over 1 percent savings.[1] In fact, the chart shows 16 programs that have achieved 1 percent or more, with 3 programs that are achieving 2 percent and 1 program that achieved 2.5 percent. That would indicate that these savings are possible in the region.

Q. MR. PICKLES POINTS OUT THAT DESC HAS AN OBLIGATION TO DEMONSTRATE THAT PROGRAMS ARE COST-EFFECTIVE. DID YOU SUGGEST OR IMPLY OTHERWISE IN RECOMMENDING THE 1 PERCENT SAVINGS TARGET?

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[1] DESC Potential Study, Figure 21, page 38.

A. No, I did not. I agree that programs should be cost-effective. A well-designed and managed portfolio that provides deep savings does not preclude cost-effectiveness.

As proposed, the portfolio of expanded programs is showing a total portfolio TRC of 1.88.[2] Cost-effectiveness does not appear to be an inhibiting factor to further expansion of goals and achievement.

Q. MR. PICKLES IMPLIES THAT YOUR INCLUSION OF OPT-OUT SALES WHEN CALCULATING PERCENT OF TOTAL ANNUAL SALES IS FLAWED BECAUSE DESC IS PRECLUDED FROM OFFERING PROGRAMS TO THOSE CUSTOMERS. DO YOU HAVE ANY RESPONSE?[3]

A. Yes. Just because opt-out sales are precluded for a specific period of time does not mean that they should be excluded from the base of this important metric. There are good reasons to include them in the base: First, of course, those sales are part of total annual sales by definition. We are not trying to define a metric of "total annual sales that are possible to be reduced in the short term."

Second, using total annual sales keeps both projections and achievements comparable over time periods and across jurisdictions. This is helpful in evaluating and comparing programs, and identifying room for improvement. The exclusion of an ever-changing part of the base would compromise comparability over time. Use of a different denominator than is used routinely in the industry will likely lead to misinterpretation and cause confusion. Notably, neighboring investor-owned utilities Duke Progress and Duke Carolinas have customarily included all customers when calculating their annual percentage savings.

Third, as I discussed in my testimony: It is to DESC's and the ratepayers' benefit to have the widest base of customers possible in its efficiency programs.[4] DESC should not consider these opt-outs as lost from its EE programming forever, but should actively work to make its C&I programs so attractive that

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[2] DESC Potential Study, Table 40, page 53.
[3] Pickles Rebuttal, page 28.
[4] Chant Direct, page 31.

these customers want to participate. This can help DESC both stimulate the market and plan for the stream of large-scale savings on a much more informed basis, with knowledge of and participation in what its largest customers are doing.

Q. MR. PICKLES ENUMERATES SEVERAL FACTORS TO BE TAKEN INTO ACCOUNT IN DETERMINING A SAVINGS GOAL. DO YOU DISAGREE?

A. I do not take issue with the considerations that Mr. Pickles provides.[5] What I do take issue with are efficiency programs that do not properly address the considerations he views as limitations. Effective programming comes from working to address each of the considerations that he lists, not accepting them as status quo or as permanent program limitations. Good program design does not take as an exclusionary boundary the nature of trade ally relationships, for example, especially if they are working to the detriment of bringing proven technologies with proven upstream incentive strategies to wider markets. One identifies that barrier, and then works to overcome it.

Q. MR. PICKLES SUGGESTS THAT THE ACEEE 2018 STATE ENERGY EFFICIENCY SCORECARD DOES NOT SUPPORT YOUR RECOMMENDATION OF A ONE PERCENT SAVINGS TARGET. HOW DO YOU RESPOND?

A. I disagree. His argument principally points to upcoming changes in codes and standards, which affect baselines. That will indeed affect savings claims, and it points to the need for more fundamental change and development of programs and measures than what has been proposed in the DESC program plan. We have been subject to changes in codes and standards throughout the history of energy efficiency. Often those changes have worked to catalyze programs focused on new ways of interacting with the market. One example provided by Mr. Pickles is the upcoming change in the federal SEER efficiency rating for air conditioners from 14 to 15. That change still leaves much room because as the standards regarding the least efficient air conditioner that can be sold have changed, so have

[5] Pickles Rebuttal, page 10. In addition to cost-effectiveness, Mr. Pickles includes "operational and capacity needs of the system, the demographics of the customers base, the affordability impacts of the programs, the nature of the energy efficiency and trade ally infrastructure, changes in technology and baselines, and other important public policy considerations."

the technologies for more efficient air conditioners and heat pumps at the higher efficiency end of the market. That is one of the long-term market-enhancing effects that we all want to see from both federal baseline standards and utility programs promoting more efficient equipment. It is not a reason to scale back goals for cost-effective efficiency.

Q. IN YOUR DIRECT TESTIMONY, YOU QUESTIONED DESC'S PROJECTIONS THAT PROGRAM SAVINGS MUST PLATEAU. HOW DO YOU RESPOND TO MR. PICKLES' ATTEMPTS TO JUSTIFY THE PLATEAU?

A. Again, Mr. Pickles cites the upcoming changes in federal standards as the reason for a plateau, and my response is as above.

Q. MR. PICKLES TAKES ISSUE WITH SEVERAL LIMITATIONS YOU IDENTIFIED IN THE POTENTIAL STUDY. TURNING TO THE FIRST LIMITATION, PAST PROGRAM PERFORMANCE, HOW DO YOU RESPOND TO MR. PICKLES?

A. This is the most important issue to address. Mr. Pickles argues that with respect to establishing savings targets or goals, past performance should not be used to create future metrics when creating performance goals (see above). Yet, by basing its estimations of future program potential on dated program strategies and historical data, this is effectively exactly what the DESC Potential Study has done. I discussed in my direct testimony my concern that the Potential Study relies heavily on "historical program performance" in defining future potential.

Let's be clear: the DESC Potential Study has not defined "maximum achievable potential" as the term is routinely used in the industry. I commented on this in my direct testimony. The DESC Potential Study has not even defined program *achievable* potential. The Potential Study models two very limited cases: existing programs and expansion of existing programs. This is not an estimation of achievable potential for DESC's territory. By only looking at existing and expanded programs, DESC has constrained the potential it defined to a subset of achievable potential. I have outlined in my direct testimony a number of additional measures, program strategies, and further expansion of participant numbers that have the potential to expand savings.

Q. TURNING TO THE USE OF PAYBACK ACCEPTANCE CURVES, DO YOU HAVE A RESPONSE TO MR. PICKLES?

A. I appreciated the enumeration in Mr. Pickles' rebuttal testimony of other factors that were considered. Nevertheless, I still have the same concerns about the payback curves.[6] As I originally testified, I am concerned that base data for the curves is dated and about unanswered questions regarding the lack of transparency into sources.

I'll offer two easily understood observations about the curves as examples of these concerns and their implications. The payback curve for residential appliances indicates that customer acceptance drops to zero if the payback is greater than 12 months. Appliances generally have measure lives of 8 to 14 years. I have not seen data indicating that residential customers are *completely dismissive* (0 percent acceptance) of payback periods that are anything greater than 12 months when making decisions about appliances.

Second, if you compare the curves for residential lighting and residential appliances, it appears that residential customers accept longer payback periods for lighting than for appliances. Appliances are higher cost items and the customer decisionmaking process for purchasing is significantly more intentional. Even though measure lives have become similar with the move to LED lighting, the way the customer approaches each purchase is different.

Q. YOU TESTIFIED ABOUT SEVERAL PURPORTED BARRIERS THAT COULD BE OVERCOME TO EXPAND PROGRAM POTENTIAL. DO YOU AGREE WITH MR. PICKLES THAT DESC ADEQUATELY CONSIDERED THESE BARRIERS?

A. DESC may have considered the barriers, but just restating that market barriers should not close the door on the potential of these approaches. The reason that we work to identify barriers is to then develop the strategies to overcome

[6] DESC Potential Study, Appendix C, page 63.

them and transform the market. Simply delineating the barriers is not a reason to over-constrain the estimated potential.

Upstream programming might be a good example to focus on to illustrate this common principle of program design and implementation. The history of this type of programming shows the ability of utilities to increase savings and lower costs. To counter by saying that these benefits come at the cost of "[a] loss of visibility for the sponsoring utility,"[7] among other things, is putting DESC interests before the ratepayers. The point of the program is not to give credit to the sponsoring utility; it is to use the most efficient strategy to help customers save energy so that overall costs to all ratepayers are reduced. And while there may have been "[d]ebate regarding the influence of the incentive in the purchasing decisions"[8] in the early years of upstream programming (going back more than a decade), the attribution of savings from these programs has become much less contentious as the data supporting their results has increased and improved.

Q. IN RECOMMENDING A ONE PERCENT SAVINGS GOAL FOR DESC, WERE YOU SUGGESTING THAT THE COMPANY IGNORE THE KEY DRIVERS OF ENERGY EFFICIENCY THAT MR. PICKLES IDENTIFIES IN HIS REBUTTAL TESTIMONY?

A. No. DESC should absolutely pay attention to each of the considerations that Mr. Pickles provides,[9] none of which preclude establishing goals that push the company to improve its performance beyond what it has offered.

Q. MR. PICKLES POINTS OUT THAT SEVERAL OF THE SAVINGS ESTIMATES FROM THE POTENTIAL STUDIES YOU CITED REPRESENT THE "HIGH" CASE. DO THE BASE CASE ESTIMATES ALSO SUPPORT YOUR CONTENTION THAT DESC'S FORECASTS ARE UNDERESTIMATED?

A. The relevant comparison is to the high estimates – the expanded program scenario – because that is the program that DESC is proposing. I believe the base case program scenario is also underestimated.

[7] Pickles Rebuttal, page 19.
[8] Pickles Rebuttal, page 19.
[9] Pickles Rebuttal, page 23, provides the following: average rates; avoided costs; saturation of natural gas; low-income proportion; and service territory density.

Q. MR. PICKLES RESPONDS TO YOUR RECOMMENDATION THAT LOW-INCOME PROGRAMS BE EXPANDED BY SUGGESTING THAT MOST OF THE MEASURES ARE INCLUDED IN THE DESC PORTFOLIO. IS THIS AN ADEQUATE RESPONSE?

A. No, it is not adequate. It is too easy to create and point to a list of measures for a program, but then not actually widely effect their installation through a program. As stated in my direct testimony, the projected average savings per home in the low-income and market-rate residential retrofit programs (Home Check and Residential Neighborhood Energy Efficiency Program) do not indicate that a comprehensive set of measures are being installed.[10] If all measures on that list were routinely and correctly being installed into most homes, the average savings rate would be much higher. So, while the measures may be listed, I believe the assumed rates of installation are low. What we all want to see is a comprehensive array of measures routinely and correctly installed (with proper pre- and post-testing of results), and average savings per home and total program savings increasing. Success should not be measured by what is on the list, but rather by what actually goes into the home and what savings result.

Additionally, Mr. Pickles counters that the measures that I have proposed are included in the portfolio, but glosses over the fact that they are not available to low-income people as part of the Residential Neighborhood Energy Efficiency Program (NEEP), DESC's low-income program. In nearly every case, he points to other programs in the residential portfolio where the measures I have recommended are included.[11] This indicates that these measures are cost-effective, and I argue that they should be as available to low-income ratepayers as they are to upper-income program participants. These measures should be included in the NEEP.

Last, there is one measure that I have recommended (refrigerator replacement) that Mr. Pickles points out does not pass the TRC screen.[12] As I understand it, low-income programs are exempt for TRC screening requirements

[10] Chant Direct, pages 13 and 21.
[11] Pickles Rebuttal, page 25-26.
[12] Pickles Rebuttal, page 26.

in South Carolina, so this should not matter for inclusion of the measure into this program. And, as I testified originally, DESC's low-income program has the second highest program-level TRC in the entire proposed portfolio.[13] This implies room for increasing the comprehensiveness of treatment of low-income homes and increasing the benefits to low-income people beyond what is currently being provided by the NEEP.

Q. MS. GRIFFIN DISAGREES WITH YOUR ASSERTION THAT DESC SHOULD BE DOING MORE TO MEET THE NEEDS OF MODERATE-INCOME RESIDENTS. CAN YOU PROVIDE ADDITIONAL SUPPORT FOR YOUR ASSERTION?

A. Ms. Griffin points to high levels of visits of moderate-income residents to DESC business offices.[14] These are the very people who need comprehensive energy-reducing services to lower their bills. I am concerned that they are reaching out to DESC for assistance and DESC does not see that as a call for programming targeted specifically to their needs. These are the residents who often fall through the cracks, as they may not be eligible for low-income services and support (both energy assistance and energy efficiency).

More attention is being paid by many in the energy efficiency industry to the needs of moderate-income customers. Recent research shows that residents who are low- or moderate income, of color, with less education, renters, and / or in multifamily buildings are underserved by energy efficiency programs.[15] The barriers to participation are higher, so outreach and incentives often have to be greater and more targeted to increase participation.

Neither DESC's original proposal nor Ms. Griffin's rebuttal provides any programs that are specifically targeted to moderate-income customers. Rather, what Ms. Griffin provided was a recitation that sometimes some moderate-income people participate in market-rate and / or low-income programs. That is good to

[13] DESC Potential Study, Table 40, page 53.
[14] Griffin Rebuttal, page 3: "…a 2015 internal analysis of customers who frequent DESC's business offices found that 85% of all residential business office customers are low or middle income. Of the 85%, 45% are moderate/middle income." Ms. Griffin does not comment on the reasons for the frequent visits
[15] *See* Frank, M., and S. Nowak, "Who's Participating and Who's Not? The Unintended Consequences of Untargeted Programs," Proceedings of the 2018 ACEEE Summer Study on Energy Efficiency in Buildings.

hear, but it does not address the question of how DESC is addressing the needs of moderate-income people. Specific program designs that target the additional barriers to participation faced by this group of customers are needed.

Q. MR. PICKLES DISAGREES WITH YOUR TESTIMONY THAT THE 11.5 PERCENT SHARED SAVINGS INCENTIVE IS TOO HIGH, CITING STATE LAW AND OFFERING A CALCULATION THAT HE CLAIMS SUPPORTS THE 11.5 percent PROPOSAL. HOW DO YOU RESPOND?

A. I will start by pointing out that neither I, nor Mr. Pickles, are attorneys. Nor am I an accountant with access to DESC's financial records. I cannot comment on the application of the law nor on the calculation and the underlying source material that Mr. Pickles has provided. I should say that I have assumed that the shared savings incentive is not duplicative of any other lost revenue adjustment that may be occurring.

I testified that nearly doubling the percent of shared savings that accrue to DESC while also doubling the base on which it is calculated can have the consequence of increasing the payout by 283 rather than just doubling it.[16]

Finally, I will restate that I posited that incentive as too high *for the performance proposed*. I fully support performance incentives that encourage and reward exemplary program performance, and I suggested in my testimony an 11.5 percent share of savings as an incentive for reaching a much higher level of savings than what DESC has proposed with its five-year expanded program plan.

The performance proposed in this plan cannot be considered exemplary. Nor will a guarantee of 11.5 percent of shared savings incentivize DESC to move its programs to the level they should be at during PY10 through PY14. I would again propose that the upper end of the performance incentive be scaled to support goals that require DESC to achieve higher levels of savings than it has proposed. An intelligently scaled structure that encourages deeper savings will provide greater incentive and should lead to better performance by DESC.

[16] Chant Direct, page 28.

Q. MS. GRIFFIN DISAGREES WITH YOUR RECOMMENDATION THAT THE COMMISSION SET BOUNDARIES ON DESC'S ABILITY TO CHANGE PROGRAMS OVER THE FIVE-YEAR PERIOD WHILE ALLOWING DESC FLEXIBILITY TO ADAPT TO MARKET CHANGES. HOW DO YOU RESPOND?

A. I understand the need for programming stability to create and maintain market momentum. The energy efficiency community has supported that concept for decades, primarily to counter wild swings in program funding that are disruptive to sustainable market development.

However, five years is a very long time in the context of today's energy markets and energy efficiency programs. Some of the highest-achieving jurisdictions have settled on a three-year cycle, with, in some instances, a requirement for a submission and approval of annual plans within that three-year plan framework.[17]

Q. FINALLY, MR. PICKLES AND MR. RAFTERY BOTH TAKE ISSUE WITH YOUR ASSERTION THAT DESC HAS NOT COMPLIED WITH THE COMMISSION'S DIRECTIVE TO DEVELOP AND IMPLEMENT DEMAND RESPONSE PROGRAMS TO REDUCE WINTER PEAK. HOW DO YOU RESPOND?

A. The first thing that I would point to is the Commission's own requirement that DESC "investigate and implement" demand response programming.[18] DESC has not complied with the Commission's directive, and DESC's request in rebuttal[19] that the Commission find that it has should be dismissed.

Witnesses Pickles and Raftery appear to ignore the fact that the Commission's directive included energy efficiency as well as demand response. While some of the programs in the proposed portfolio likely have the effect of reducing winter peak, it does not appear that the Company has explicitly considered this provision of the Commission's order in designing its proposed portfolio."

[17] Examples include Connecticut, Massachusetts, Rhode Island, and Vermont, each of which is in the top ten rankings provided by ACEEE.
[18] Docket No. 2018-2, Order 2018-322, page 46.
[19] Raftery Rebuttal, page 7.

As I discussed in testimony, while the lack of AMI is a challenge – like other market barriers I have discussed in my direct testimony and this rebuttal – it is not insurmountable barrier. Mr. Raftery points out that AMI should not be rolled out "piecemeal."[20] I have not suggested such an approach. But, as I have stated in my testimony, including a plan for pilot programming at minimum in areas that are targeted for early roll-out would help to show that DESC is taking this issue as seriously as the Commission does and could help DESC meet the Commission's requirement that it implement DR programs to reduce winter peak. DESC's own Potential Study found that there was cost-effective potential in this area.[21]

Additionally, there are other ways to build the market for DR reduction. DESC could explore market development for third-party vendors of demand reduction technologies. This is not new territory; other jurisdictions serve as successful examples. The range of vendors and technologies continues to develop and prove itself as the issues of demand management and response become increasingly important to grid resilience.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

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[20] Raftery Rebuttal, page 7.

[21] "The DR programs recommneded (sic) to DESC show **a Total Resource Cost (TRC) test benefit-to-cost ratios of 1.8** or above for all programs in both scenarios, with a **total portfolio TRC ratio of 2.0**." (Emphases in original.) DESC Potential Study, page 40.